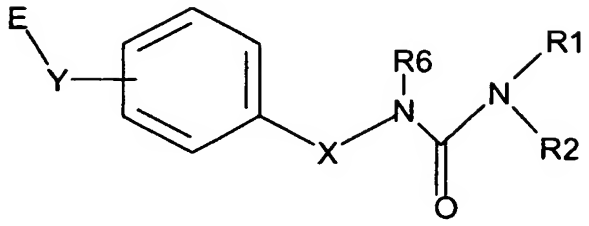
CLAIMS

What is claimed is:

1. A Compound of the structural formula I:

Formula I



and pharmaceutically acceptable salts, solvates and hydrates thereof, wherein:

(a) R1, R2 and R6 are each independently selected from the group consisting of hydrogen, C_1-C_8 alkyl, substituted C_1-C_8 alkyl, aryl-C_{0-4}-alkyl, substituted aryl-C_{0-4}-alkyl, C_3-C_6 cycloalkyl, substituted C_3-C_6 cycloalkyl, heteroaryl-C_{0-4}-alkyl, substituted heteroaryl-C_{0-4}-alkyl, C_3-C_6 cycloheteroalkylaryl-C_{0-2}-alkyl, substituted C_3-C_6 cycloheteroalkylaryl-C_{0-2}-alkyl, C_3-C_6 cycloalkylaryl-C_{0-2}-alkyl and substituted C_3-C_6 cycloalkylaryl-C_{0-2}-alkyl; wherein the substituents for said substituted alkyl, arylalkyl,cycloalkyl, heteroarylalkyl, cycloheteroalkylarylalkyl,and cycloalkylarylalkyl are from one to three substituents each independently selected from R1';

(b) R1', R3', R4' and R19' are each independently selected from the group consisting of H, C1-C5

alkyl, C1-C5 alkoxy, C1-C5 haloalkyl, C1-C5 haloalkoxy, nitro, cyano, CHO, hydroxyl, arylC_0-$C5_5$alkoxy, arylC_0-$C5_5$alkyl, alkylcarboxamido and COOH;

(c) X is an optionally substituted C_1-C_5 alkylene linker wherein one carbon atom of the linker may be replaced with O, NH or S;

(c) Y is C, O, S, NH or a single bond; and

(d) E is selected from the group consisting of hydrogen, C(R3)(R4)A, A, and $(CH_2)_n$ COOR19; wherein said $(CH_2)_n$ COOR19 is optionally substituted with a group selected from C_1-C_5 alkyl, arylC_0-C_5alkoxy, and arylC_0-C_5alkyl; and wherein

(i) n is 0, 1, 2 or 3,

(ii) A is selected from the group consisting of carboxyl, C_1-C_3alkylnitrile, carboxamide, sulfonamide, substituted sulfonamide, acylsulfonamide, substituted acylsulfonamide, tetrazole and substituted tetrazole;

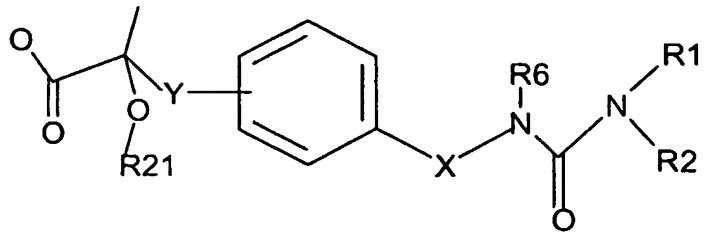
(iii) R3 is selected from the group consisting of H, C_1-C_5 alkyl, and C_1-C_5 alkoxy, wherein said alkyl and alkoxy are each optionally substituted with from one to three substituents each independently selected from R3';

(iv) R4 is selected from the group consisting of H, halo, C_1-C_5 alkyl, C_1-C_5 alkoxy, C_3-C_6 cycloalkyl, aryl C_0-C_4 alkyl, and arylC_0-C_2alkoxy, or R3 and R4 are optionally combined to form a C_3-C_4 cycloalkyl, and

wherein said alkyl, alkoxy, cycloalkyl, arylalkyl, and arylalkoxy are each optionally substituted with from one to three substituents each independently selected from R4'; and

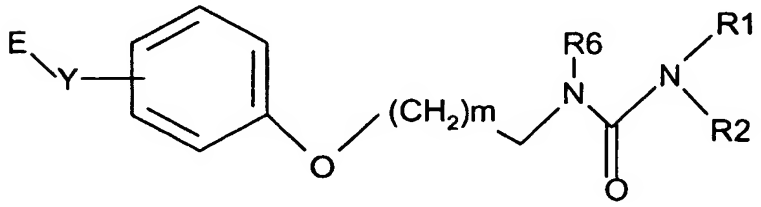
(e) R19 is selected from the group consisting of hydrogen, arylmethyl, and C1-C4alkyl, wherein said arylmethyl and C1-C4alkyl, are each optionally substituted with from one to three substituents each independently selected from R19'.

2. A compound as claimed by Claim 1 of the structural formula II:



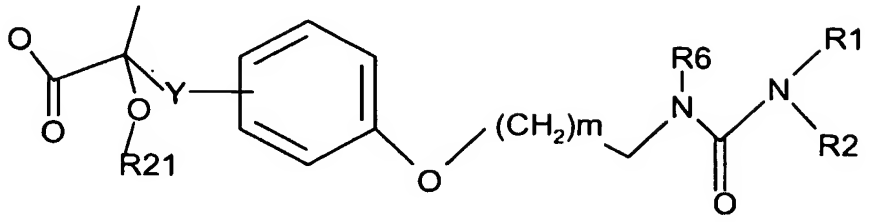
wherein R21 is selected from the group consisting of phenyl, substituted phenyl, and C_1-C_6 alkyl.

3. A compound as claimed by Claim 1 that is of the following structural formula III:



m is 0, 1, or 2.

4. A compound as claimed by Claim 1 that is of the structural formula IV:



m is 0, 1, or 2, wherein R21 is selected from the group consisting of phenyl, substituted phenyl, and C_1-C_6 alkyl..

5. A compound as claimed by any one of Claims 1, 2, 3 or 4 wherein R6 is selected from the group consisting of hydrogen, substituted C_1-C_4 alkyl, C_1-C_4 alkyl, substituted aryl-C_{0-4}-alkyl, and aryl-C_{0-4}-alkyl.

6. A compound as claimed by any one of Claims 1, 3, or 5 wherein E is A.

7. A compound as claimed by any one of Claims 1, 3, 5 or 6 wherein A is COOH.

8. A compound as claimed by any one of Claims 1, 2, 3, 4, 5, 6 or 7 wherein Y is O.

9. A compound as claimed by any one of Claims 1, 2, 3, 4, 5, 6, or 7 wherein Y is C.

10. A compound as claimed by any one of Claims 1 through 9 wherein R4' substituents are selected from the group consisting of arylalkyl, aryl, arylalkoxy, aryloxy, and alkyl.

11. A compound as claimed by any one of Claims 1, 3, 5, 8, 9, or 10 wherein aryl is substituted phenyl.

12. A compound as claimed by any one of Claims 1 through 11 wherein R2 is hydrogen and R1 is substituted phenyl.

13. A compound as claimed by Claim 1 or 12 wherein substituted phenyl is substituted with a group selected from aryl, aryloxy, and arylalkyloxy.

14. A compound as claimed by any one of Claims 1-13 wherein X is optionally substituted C_2-C_5 alkylene.

15. A compound as claimed by any one of Claims 1-13 wherein X is $-O-(CH_2)_m-$.

16. A compound as claimed by any one of Claims 1 through 15 wherein the E-Y group is in the para position in relation to the X linker.

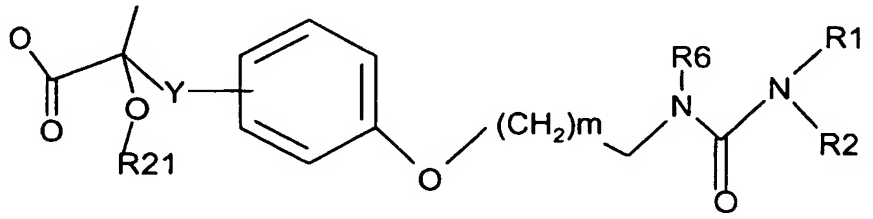
17. A compound as claimed by any one of Claims 1 through 10, Claim 14, Claim 15, or Claim 16 wherein R1 is selected from unsubstituted phenyl and substituted phenyl, and R6 is hydrogen.

18. A compound as claimed by any one of Claims 1 through 17 wherein R1 is substituted phenyl wherein the phenyl substituent is one or two independently selected from the group consisting of CF_3, C_1-C_4 alkyl, and halo.

19. A compound as claimed by any one of Claims 1 through 18 wherein R1 is substituted phenyl and R2 is hydrogen.

20. A compound as claimed by any one of Claims 1, 5, 12, 13, 17 through 19 represented by the following structural

Formula:



wherein R21 is selected from the group consisting of phenyl, substituted phenyl, and C_1-C_6 alkyl.

21. A pharmaceutical composition, comprising a pharmaceutically acceptable carrier and at least one compound as claimed by any one of Claims 1-20.

22. A method of modulating a peroxisome proliferator activated receptor, comprising the step of contacting the receptor with at least one compound as claimed by any one of Claims 1-20.

23. A method of treating diabetes mellitus in a mammal,
comprising the step of administering to the mammal in need thereof, a therapeutically effective amount of at least one compound of Claims 1-20.

24. A method of preventing diabetes mellitus in a mammal, comprising the step of administering to the mammal in need thereof, an effective amount of at least one compound of Claims 1-20.

25. A method of treating Syndrome X in a mammal, comprising the step of administering to the mammal in need thereof, a therapeutically effective amount of at least one compound of Claims 1-20.

26. Use of a compound for the manufacture of a medicament for the treatment of a condition modulated by a peroxisome proliferator activated receptor, wherein the compound, is a at least one compound of Claims 1-20.

27. A compound as disclosed by any one of the examples herein.